



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,678	09/14/2001	Gregory T. Galazin	70774-1246	7933

277 7590 12/02/2003

PRICE HENEVELD COOPER DEWITT & LITTON  
695 KENMOOR, S.E.  
P O BOX 2567  
GRAND RAPIDS, MI 49501

EXAMINER

CULBRETH, ERIC D

ART UNIT	PAPER NUMBER
----------	--------------

3616

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/936,678

Applicant(s)

GALAZIN, GREGORY T.

Examiner

Eric D Culbreth

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 19-30 31-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12 is/are allowed.
- 6) ☒ Claim(s) 13-17, 19-30, 32 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 3616

## DETAILED ACTION

### *Response to Amendment*

1. The amendments to the specification filed 9/11/03 were not entered because the amendments did not match up to the original specification (i.e., there are no paragraphs labeled [0038], [0041], etc. in the specification). The amendments to the claims filed 9/11/03 were entered because they were in proper format.

### *Drawings*

2. The drawings were received on 9/11/03. These drawings are approved by the examiner.

3. The drawings are objected to because of the following informalities. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

a. Reference numeral 30 (page 6, line 19 and throughout the specification) does not refer to a piston.

b. Reference numeral 122 (page 13, lines 1-2) is not on the drawings.

c. Comparing page 13, line 10 to the drawings, "58" on page 13, line 10 should be "158".

d. Comparing the specification to the drawings "Figure 8" on page 13, line 12 should be "Figure 9".

e. On page 13, line 27 "130" should apparently be "120".

Because the amendments to the specification were not entered, the deficiencies remain.

***Specification***

4. The disclosure is objected to because of the following informalities:
- a. On page 7, line 13 "en" should be "end".
  - b. On page 9, line 23 "axlses" should be "axle".
  - c. On page 9, last line "tightened. The" should be "tightened, the" in order to form a complete sentence.

Appropriate correction is required.

Because the amendment was not entered, the objections remain.

***Claim Rejections - 35 USC § 112***

5. Claims 14-17, 22-24, 29-30 and 32-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. In claim 22, line 4, there is no antecedent basis for "the cylindrical-shaped end" (a cylindrical-shaped portion was previously recited).
- b. In claim 23, line 3 "relative spring beam" should apparently be "relative to the spring beam".
- c. In claim 14, line 3 and 29, line 3 there is no antecedent basis for "the other portion".

***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 13-14 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over VanDenberg (of record) in view of WO97/06022 (newly cited by applicant).

VanDenberg discloses a pair of trailing arm assemblies (Figure 3) mounted on spaced rails 4 of a vehicle frame. Each assembly has frame bracket 5 mounted on rail 4, a resilient or spring beam 15 pivoted at bracket 5 and carrying an axle at the other end, and a spring 24 mounted at the other end of spring beam 15. The axle seats are integrally formed with the beams 15, and there is an adhesive layer bonding the axle and axle seat (Abstract). However, VanDenberg does not disclose the axle seats in tension and compressing the axle. WO '022 discloses in the last 3 lines of the English Abstract press fitting a wrapper band 60 onto an axle to ultimately connect it to beam 18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify VanDenberg to include the axle press fit into the axle seat (which would place the seat in tension and compress the axle) as taught by WO '022 in order to minimize the need for additional connection such as welding (or adhesive) (last line of WO '022's abstract). In the combination the axle seat would be round in keeping with VanDenberg and hence would evenly distribute a compressive load (claim 13). Regarding claim 14, as functionally recited the opening for the axle would have a diameter less than the axle (press fit) when the rest of the axle is unsprung as best understood (i.e., when the weight of the vehicle is not on the spring beam).

Art Unit: 3616

8. Claims 19-20 and 27 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over VanDenberg in view of British 1,203,386.

VanDenberg discloses a pair of trailing arm assemblies (Figure 3) mounted on spaced rails 4 of a vehicle frame. Each assembly has frame bracket 5 mounted on rail 4, a resilient or spring beam 15 pivoted at bracket 5 and carrying an axle at the other end, and a spring 24 mounted at the other end of spring beam 15. However, VanDenberg does not teach the longitudinal centerline at the axle seat located outboard of the pivot axis centerline. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify VanDenberg to include the axle seat centerline outboard of the pivot axis centerline as taught by British '386 in order to take up side thrusts and improve self steering characteristics (British '386, page 1, lines 55-65) (claim 19). Noting applicant's remarks on page 16 of the 9/11/03 amendment that British '386 does not appear to provide specific teachings about the axle seats, in Figure 2 of British '386 the longitudinal centerlines of seat 10, 11 of the axle are clearly outboard of the longitudinal centerlines at the pivot axes in solid lines. VanDenberg's spring beam 15 has a cylindrical axle seat (claim 20), and VanDenberg teaches an adhesive between the axle and axle seat in the Abstract (claim 27).

9. Claims 15-16 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over VanDenberg in view of WO '022 as applied to claim 14 above, and further in view of British Patent 1,203,386 (of record).

Art Unit: 3616

In the combination above, VanDenberg discloses all the limitations of claims 15-16 (including cylindrical openings at the bracket end for bolts) except the axle seat centerline outboard of the pivot axis centerline. British '386 discloses the axle seat centerline on the leaf spring outboard of the pivot axle centerline (solid pivot axis centerline in Figure 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify VanDenberg to include the axle seat centerline outboard of the pivot axis centerline as taught by British '386 in order to take up side thrusts and improve self steering characteristics (British '386, page 1, lines 55-65).

10. Claims 28-29 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over VanDenberg in view of British '386 as applied to claim 27 above, and further in view of WO '022.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify VanDenberg to include the axle press fit into the axle seat (which would place the seat in tension and compress the axle) as taught by WO '022 in order to minimize the need for additional connection such as welding (or adhesive) (last line of WO '022's abstract).

11. Claim 17 as best understood is rejected under 35 U.S.C. 103(a) as being unpatentable over VanDenberg in view of WO '022 and British '386 as applied to claim 16 above, and further in view of Dilling et al (cited by applicant).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of claim 16 to include the brake actuators shown in

Art Unit: 3616

phantom mounted on the beam in view of Dilling et al's actuator mounted on the beam in Figure 10 in order to reduce stresses on the axle (Dilling et al, column 5, lines 35-40).

12. Claims 30 and 32-33 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over VanDenberg in view of British '386 and WO '022 as applied to claim 29 above, and further in view of Dilling et al (cited by applicant).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of claim 29 to include the brake actuators shown in phantom mounted on the beam in view of Dilling et al's actuator mounted on the beam in Figure 10 in order to reduce stresses on the axle (Dilling et al, column 5, lines 35-40). VanDenberg's spring beam 15 has a cylindrical transverse bolt opening for pivotally mounting the beam (claims 32-33).

***Allowable Subject Matter***

13. Claims 1-12 are allowed.

14. Claim 21 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

15. Claims 22-26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.



***Conclusion***

16. Because a new grounds of rejection was made with the newly cited reference by the applicant, this action is non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric D Culbreth whose telephone number is 703/308-0360. The examiner can normally be reached on Monday-Thursday, 9:30-7:00 alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 703-308-2089. The fax phone number for the organization where this application or proceeding is assigned is 703/746-3508.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Eric D Culbreth  
Primary Examiner  
Art Unit 3616

*Eric Culbreth*

*11/20/03*

ec